Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Replacement of Part 90 by Part 88	)	**PR Docket No. 92-235**
to Revise the Private Land Mobile	)	
Radio Services and Modify the	)	
Policies Governing Them	)	

To: The Commission

COMMENTS OF KENWOOD COMMUNICATIONS CORPORATION IN RESPONSE TO NOTICE OF PROPOSED RULE MAKING

Kenwood Communications Corporation ("Kenwood"), by counsel and pursuant to Section 1.415 of the Commission's Rules (47 C.F.R. §1.415), hereby respectfully submits its comments in response to the Notice of Proposed Rule Making ("The Notice"), 7 FCC Rcd. 8105 (1992).[1] The Notice proposes a variety of revised rules and policies seeking to increase channel capacity in the PLMR frequency bands below 512 MHz. It is intended that these rules will increase use of the bands by large and

I. Introduction

1. Kenwood is a major manufacturer of high-quality land mobile, marine and amateur radio equipment. It is, therefore, very much interested in the Commission's plans for achieving greater spectrum efficiency in the existing PLMR allocations below 512 MHz. It is apparent to Kenwood that the radio spectrum below 1000 MHz is fully allocated. Given that, the past approach to alleviation of spectrum crowding in PLMR bands, principally consisting of allocation of additional spectrum, is no longer viable.[2] It is apparent that inter- and intra-service sharing is the only means of increasing spectrum efficiency, and that spectrum efficiency standards are timely.[3]

II. Reduction of Bandwidth Must Be Accomplished In Steps, And Requires Industry Coordination

2. The Commission has always maintained, however, that conversion to more spectrum efficient, and especially narrowband modes in the land mobile services

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[2] See the Report and Order in Docket 84-902, FCC 85-641, released January 22, 1986, in which the Commission stated that it would no longer resolve spectrum congestion problems by allocation of additional spectrum to the PLMR services, but rather would require the implementation of more efficient technologies.

[3] In 1985, the Commission authorized the use of narrowband technologies in the

require a reasonable conversion period. In Docket 87-14, in which the Commission allocated two MHz at 220-222 MHz for the development of narrowband land mobile technology, the Commission stated:

> We believe that spectrum efficient technologies will be essential in addressing the country's future land mobile requirements. Of course, narrowband technology is not the only spectrum efficient technology that might be applied to land mobile needs. However, we note that it has the potential of greatly improving spectrum efficiency. We are convinced that for narrowband land mobile technology to flourish, it must be afforded a reasonable opportunity to gain full acceptance in the marketplace.

See, the Report and Order, 3 FCC Rcd. 5289 (1988).

3. The Notice in this proceeding proposes to implement a set of spectrum efficiency standards based on narrowband technology, which would provide for greater efficiencies over time, moving from the present 25 kHz channel spacing (which Kenwood agrees is wasteful and should be reduced) toward an ultimate goal of 6.25 kHz spacing in the 421-430, 450-470 and 470-512 MHz bands, and 5 kHz spacing in the 72-76 and 150-174 Mhz bands. This reduction in bandwidth will occur in two stages, the first to reduce channel deviation for existing systems, thus reducing noise caused by and to adjacent channel assignments, without requiring actual replacement of equipment.

4. Kenwood supports and encourages the Commission to take this first step, and agrees that the implementation date for the first step, which is January 1, 1996, is reasonable. In order to increase channel capacity, the channel spacing has to be reduced, and the first step is to reduce that spacing to 12.5 or 15 kHz. This should cause an immediate increase in spectrum efficiency, with no appreciable adverse

effect on the user community, or on equipment manufacturers. Existing equipment will not become obsolete by an arbitrarily established date for conversion to new equipment.

5. The second step, however, is premature in the extreme, and there should be no date established in the Part 88 rules for conversion to narrower bandwidth technologies at the present time, for several reasons. First and foremost, reduction of occupied bandwidth to either 4 or 5 kHz, thus to achieve 6.5 or 5 kHz channel spacing, will eliminate any possibility of using established FM technologies, and will impose on users an absolute requirement to replace entire systems. These systems are currently integrated into the telecommunications infrastructure of large businesses and government entities, and there is not at the present time a sufficient basis for disruption of entire communications systems. The Commission has historically, specifically avoided any rules which would disrupt existing land mobile operations, financially burden small businesses, or obsolete existing equipment and systems.[4] This is not to suggest that there should not be a conversion process for narrowing channels below 12.5 kHz. Rather, it should be done at a later date, when standards for narrowband operations are accepted throughout the industry, and a conversion can be done at a fixed time in the future.

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[4] In Docket 87-14, the Commission refused to reallot existing land mobile allocations to narrowband channelization because such would "entail severe costs to a large number of users as well as potentially having a detrimental impact on safety services, such as the police and fire services". 4 FCC Rcd. 6407, 6408 (1989).

6. The entire premise of the Docket 87-14 allocation, and of the service rules adopted in the PR Docket 89-552 proceeding, was to permit a marketplace opportunity for narrowband systems to become licensed, and for a marketplace standard to develop and become accepted. The goal was for these narrowband systems to develop at 220-222 MHz, and thereafter to become integrated into the other land mobile allocations below 512 MHz. There has been no opportunity for this to occur, however, because there have been, until very recently, no licenses granted in the band, on either local or nationwide channels. The result is that there is no standard for narrowband land mobile equipment, either digital or analog. Because there is not an established and proven narrowband technology readily available to replace current wideband systems; because the Commission has specifically allocated spectrum for the development of such equipment and for the acceptance thereof in the marketplace; and because there will be no compatibility between the current system (either pseudo- 12.5 kHz systems or true 12.5 kHz systems) and new narrowband systems in terms of equipment, any proposal for reduction of occupied bandwidth below 12.5 kHz is premature at this time.

7. Thus, Kenwood proposes that after the "first step" of reduction in frequency deviation of existing systems, which will itself result in significant spectrum efficiency increases, any further action compelling the obsolescence of existing systems be stayed, until the industry agrees upon a single (or, if multiple, then compatible) narrowband technique that satisfies the spectrum efficiency requirements and at the same time the needs of the land mobile users. In the instant Notice, the Commission

refused to endorse a particular format for the narrowband technology. This is wise, in that there is no clear-cut choice to be made at the present time.[5] However, to proceed now with channelization plans for systems narrower than 12.5 kHz will inevitably result in unnecessary confusion among users. It will also create intra-service compatibility problems (which will frustrate interoperability in the Public Safety Services).

8. A more economical and efficient plan for true narrowband channelization is to determine an acceptable, or several compatible formats, rather than forcing users to implement several potentially incompatible techniques on a wholesale basis. The use of the 220-222 MHz allocation for this purpose is exactly the intention of the Commission in making that band available, and would promote uniformity in the other PLMR bands below 512 MHz at an acceptable transition time. Should additional segments in different frequency ranges be required for further development of

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[5] See, Comparison of Selected Narrowband Modulation Systems, NTIA-OSM, dated October 30, 1987 for CCIR Study Group 1 (1986-1990), at 3.4:

standards for narrowband operation, the segments to be potentially made available pursuant to pending spectrum legislation should be considered.

9. The foregoing plan will minimize the cost to existing users in replacement systems, and will minimize or eliminate disruption of business or governmental operations from conversion of portions of existing integrated systems to narrowband technologies. By the time a new technology is fully developed, all existing bands will be ready to accept the new technology by having already completed a shift to 12.5 or 15 kHz spacing.

III. Conclusion

10. The proposal in the Notice, to the extent that it proposes now to implement a channelization structure narrower than 12.5 kHz, is premature in the extreme. It will inevitably result in the land mobile user community being subjected to a multitude of incompatible narrowband systems, with no interoperability. Had the Commission proceeded in 1985 to provide a transition to narrowband technologies, as now-Chairman Quello suggested, this problem may not exist at the present time. However, as the Commission has noted in the past, there is a need for marketplace acceptance of a particular narrowband standard or standards, and a regulatory framework was put in place to encourage the development of such in the 220-222 MHz band. It is suggested that the standard be allowed to develop, and for the industry to determine the proper configurations of such for the long term. In the interim, the reduction of occupied bandwidth to 10 kHz at 421-512 MHz, and 12 kHz at 150-174 MHz, and

a provision of 12.5 kHz channel spacing, should be sufficient to permit an immediate realization of spectrum efficiency for the near term.

Therefore, the foregoing considered, Kenwood Communications Corporation respectfully requests that the rules adopted in this proceeding for channel spacing, transition periods, and channel bandwidths be modified as herein proposed, and that the reduction of occupied bandwidths to the levels proposed in the Notice by January 1, 1996 be the only action taken in this proceeding at this time. Further study and adoption by the industry of a single, or compatible multiple narrowband systems is necessary before further action can be taken.

Respectfully submitted,

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